UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
60 WESTVIEW STREET, LEXINGTON, MASSACHUSETTS 02173

Memorandum 23 MAR 1987

SUBJECT: Request for Immediate Removal Action
West Bank Asbestos Site, Nashua, New Hampshire
ACTION MEMORANDUM

FROM: Paul R. Groulx, On-Scene Coordinator
Oil and Hazardous Materials Section

TO: Michael R. Deland, Regional Administrator
Regional Services Division

THROUGH: Edward B. Conley, Director
Environmental Services Division

Authorization is hereby requested for $650,000.00 to initiate an immediate removal action at the West Bank Asbestos Site, Nashua, New Hampshire. Implementation of this action is necessary to mitigate the immediate health threat posed to the residents and the general public by on-site and off-site migration of airborne asbestos fibers or particulates. This Action will provide an adequate cover over, removal of, and/or stabilization of exposed asbestos waste materials.

The West Bank Asbestos Site is located directly on the banks of the Merrimack River. The Merrimack River is used as a water supply source for the cities of Lowell, Lawrence, Methuen, and Andover, Massachusetts.

The State of New Hampshire Department of Health and Welfare, Division of Public Health Services, has formally requested EPA assistance based upon a determination of imminent and substantial danger to public health. It identifies the need for Federal emergency response action at the West Bank Asbestos Site.

BACKGROUND

The West Bank Asbestos Site is located in Hillsboro County, Nashua, New Hampshire. The Site is contained on a city-owned property lot between the ends of Hollis Street and Crown Street, adjacent to the Merrimack River south of the Taylor's Fall Bridge. The lot is made up of an estimated 15-foot high slope

extending along the river for approximately 1,000 feet. Asbestos baghouse and plate wastes are fully and partially exposed from below the waterline to the top edge of the slope. Large holes have eroded into the bank, creating cave-like openings where additional asbestos waste material is present. These openings indicate that the deposit extends back into the bank at least 10 feet or further. The flat area at the top of the slope is littered with deteriorating asbestos plate waste and large pieces of asbestos baghouse waste. Plate waste was also visible on the river bottom at the shore's edge.

The surrounding area consists of commercial and residential lots in a densely populated suburb of Nashua. The Site is approximately one mile from the center of downtown Nashua.

This Site is not on the National Priorities List.

THREAT

Asbestos fibers find entry into the body by inhalation and ingestion. Exposure to asbestos is associated with asbestosis, a chronic and debilitating lung disease. Exposure to asbestos is also linked to the development of mesothelioma, a form of cancer. Asbestos-related malignancies may exhibit a latency period of up to forty years. The risk of ambient exposure to asbestos is receiving increasing study, and there is growing concern that exposures to levels below the occupational standard may pose a significant risk to public health.

The West Bank Asbestos Site represents an imminent and substantial endangerment to the public health and environment in that:

1. Friable asbestos wastes are exposed to the air, providing a direct means by which asbestos fibers may enter the environment in an uncontrolled manner.

2. There are no barriers to prevent access to the Site. Consequently, the potential for exposure to humans in this mostly residential area is increased.

3. Potential receptors in the immediate area include several residences. Many young children live within the immediate area of the Site.

4. Releases will continue to occur each spring when the water level in the brook rises and washes into the deposit. Downstream transportation of the material via the surface waters of the Merrimack River makes the prediction of exposure potentially difficult.

A health advisory issued to the Region by the Agency for Toxic Substances and Disease Registry (ATSDR-previously CDC) states that this situation represents an unnecessary public health risk and a potential chronic public health hazard to persons living on or around the site (see Attachment 1, CDC Memo).

Although no actions have been taken to abate the threat of human exposure to the asbestos waste material, preliminary investigations have been completed by the ATSDR and the U.S. Environmental Protection Agency confirming the existence of asbestos waste material and a significant health threat. Also, a Comprehensive Site Investigation, including extensive sampling and surveying, was completed by the Roy F. Weston Technical Assistance Team in order to define the total extent of asbestos contamination present on the Site.

ENFORCEMENT STRATEGY

See attachment.

PROPOSED PROJECT AND COST

The anticipated response actions are to either remove the asbestos waste material in order to dispose it of properly, or to cover the exposed asbestos deposits using a stable cover as designed by the Army Corps of Engineers. A combination of removal and stabilization of the asbestos waste material is the expected remedial action to be taken. Special considerations involve the stabilization of exposed asbestos along the steep slopes and along the eroding bank of the Merrimack River. This removal action is consistent with the long range remedy for the Site.

Major project tasks and costs include:

1.	United States Army Corps of Engineers (IAG) A. Design and Engineering B. Supervision and Administration of Cleanup Actions	$507,000
2.	Intramural Costs	$ 40,000

3.	TAT Costs - Field Monitoring/Technical Assistance	103 ~~$100~~,000
	TOTAL PROJECT CEILING	$650,000

REGIONAL ADMINISTRATOR RECOMMENDATION

Conditions at the West Bank Asbestos Site meet the NCP Section 300.65 criteria for an immediate removal and/or capping in that there is:

- o Potential exposure to hazardous substances...by nearby populations...[300.65(b)(2)(i)];
- o High levels of hazardous substances...in soils largely at or near the surface, that may migrate [300.65(b)(2)(iv)];
- o Weather conditions that may cause hazardous substances... to migrate or be released [300.65(b)(2)(v)];
- o Other situations or factors which may pose threat to public health, welfare, or environment (downstream migration of asbestos) [300.65(b)(2)(viii)];
- o Drainage controls...--where precipitation or run-off from other sources...may enter the release area from other areas [300.65(c)(2)]; and
- o Capping of contaminated soils...--where needed to reduce migration of hazardous substances...into soil, groundwater or air [300.65(c)(4)].

I therefore recommend your approval of this removal request. The estimated total project costs are $650,000, of which $610,000 is for extramural cleanup contractor costs. You may indicate approval or disapproval by signing below.

Approve: Paul Keough Date: 3-23-87

Disapprove: _____ Date: _____

ATTACHMENT 1

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Agency for Toxic Substances
and Disease Registry
Atlanta GA 30333

MAY 13 1986

From: Acting Director
Office of Health Assessment

Subject: Health Assessment, Nashua, New Hampshire
Asbestos Sites: Nowell Street (SI-86-056), Russell Avenue (SI-86-057), West Bank of Merrimack River (SI-86-058), 44 Broad Street (SI-86-059), Oakland Avenue (SI-86-060), 17 Niquette Drive (SI-86-061), 13 Niquette Drive (SI-86-062), Wason Road (SI-86-063), and Lot # 7 Industrial Drive (SI-86-064).

To: Ms. Marilyn Disirio
Public Health Advisor
EPA Region I

EXECUTIVE SUMMARY

Environmental Protection Agency (EPA) Region I has requested Agency for Toxic Substances and Disease Registry (ATSDR) to review nine separate asbestos waste sites in and around Nashua, New Hampshire. All nine sites exhibit some potential threat to public health in that all contain asbestos waste products that are more or less subject to dispersal in the general environment of Nashua, thus placing the local population at risk of exposure to greater than normal background levels of asbestos. ATSDR recommends that all sites be eventually remediated, and proposes a priority grouping of sites with respect to their potential for causing unnecessary human exposure to asbestos.

BACKGROUND

EPA has requested ATSDR to provide health assessments of the subject nine individual asbestos waste sites located in or near the town of Nashua, New Hampshire. All nine sites were allegedly created, directly or indirectly, through operations of the Johns Manville Corporation over a period of 15 years beginning in the 1960s. The major forms of asbestos waste placed at these sites were baghouse, pelletized waste, and sheet scrap; of these forms, baghouse is the most friable and consequently poses the greatest threat to public health. A brief site summary, excerpted from the material submitted for review (see following section), follows for each of the sites.

The Nowell Street Site is an undeveloped parcel of land of approximately 1/3 acre located in a densely populated neighborhood of one- and two-family homes. The site is bordered on the north by Nowell Street, on the south by Salmon Brook, and on the east and west by residences. The terrain is flat and covered with grass and weeds. Asbestos waste (both plate and friable baghouse) is visible in several areas with little or no ground cover. There are no barriers to access to the site; a footpath traverses one end of the property.

The Russel Avenue Site is an undeveloped tract of land consisting of three privately owned lots with a combined area of two acres. The site is bordered by residential lots except for the northeastern side, which is bordered by Salmon Brook. The topography ranges from a steep embankment on the southern and western boundaries to the low, flat, marshy area at the northeastern edge of the property bordering Salmon Brook. Baghouse waste and sheet scraps are present on and below the surface of the embankment along the southern and western boundaries of the site. Several existing footpaths cross the site.

The West Bank Site is an undeveloped tract of land consisting of a one-acre parcel of city-owned land; the site is a section of a larger piece of property bordered on the east by the Merrimack River. An earthen dike on the west bank separates the site from Crown Street; there is a 1:2 slope from the dike to the river. Small trees and underbrush cover the terrain. Asbestos board waste covers 60% of the slope; the asbestos is open to weathering and has very little cover. Asbestos "caves" have occured on the slope as a result of erosion.

44 Broad Street is commercially zoned and operating as Plywood Ranch, a home remodeling center. The site is bordered to the north by Broad Street, to the west by a residential house, to the east by railroad tracks

then additional light industry, and to the South by the Nashua River. Along with a building, the site has a parking lot for customers. The slope behind the building has asbestos waste scattered all over it; the waste consists of baghouse and all types of asbestos waste board.

The Oakland Avenue Site is a vacant lot in a residential area. Steep slopes enclose the lot on the east, west, and south; the north end of the lot abuts a wet area adjacent to Salmon Brook. A dirt foot path touches one corner of the site. All types of asbestos waste was found on the site, including one 55-gallon drum containing friable baghouse.

17 Niquette Drive is a one-acre residential lot with a single family house on it; the lot is bordered to the south by Salmon Brook, to the north by Niquette Drive, and to the east and west by other residential lots. The grounds are well kept and extensively landscaped. Both asbestos board and baghouse were noted to be scattered about the property; many walkways are made up of pieces of asbestos board.

13 Niquette Drive is an approximately one-acre lot with a single family house, fencing, trees and a small stone wall surrounding a garden in the back yard. The lot is bordered by Salmon Brook, Niquette Drive, and residences on either side. Pieces of asbestos board and baghouse waste were found in the garden.

Wason Road is a two-acre residential lot with a single family house. The site is bordered on the south and west by residential lots, and on the north and east by Wason Road and Gregory Street, respectively. The site is divided into halves: on half is the house, a pool, and a well kept lawn; the other half is clear of trees at the front on Wason Road but wooded at the back. The essentially vacant portion of the lot was the portion investigated by EPA and found to contain asbestos waste materials, most of which was covered by natural material.

Lot # 7 Industrial Drive (located in Hudson, New Hampshire) is an area of light industry of approximately two acres with no buildings or permanent structures; one third of the site is wooded, the remainder having little vegetation. There is a a gravel road leading to and and going into the site that is blocked by boulders. The property is a very seldom used vacant lot with surrounding light industry. A high mound area of fill was found to have baghouse asbestos under approximately four inches of cover material. The presence of asbestos caused a halt to the development of the site as a food processing facility.

DOCUMENTS REVIEWED

A preliminary investigation site report, prepared by EPA Region I contractor Roy F. Weston, Inc., was submitted for review to ATSDR for each of the nine sites.

DISCUSSION

All nine sites were documented to be contaminated with asbestos waste with varying potential for air- and waterborne dispersal into the environment and thus for exposure of at-risk human populations.

Since asbestos is classified as a zero-threshold human carcinogen, any quantity, no matter how minute, of asbestos fibers should be considered a human carcinogen. If asbestos waste contamination of the environment occasions human exposure to asbestos beyond what would obtain in the absence of the contamination, then the asbestos contamination constitutes a public health threat that should be remediated or mitigated. However, quantifying the magnitude of the potential for asbestos dispersal and the resulting human exposure in these settings is probably not feasible. Even if such a quantification were feasible, it would be so costly to accomplish in terms of measurements that would have to be taken and so uncertain in terms of predictive value, that it would not be worthwhile.

Even though the sites cannot be quantitatively assessed and compared with one another, however, reasonable qualitative judgments can be brought to bear on the general nature of the public health threat posed by the sites. The sites can be qualitatively characterised as to their probable potential for causing asbestos to be dispersed by air or water and hence possibly to cause human exposure. Although such a qualitative approach perforce would not permit a strict ranking of the sites, they can be grouped with respect to their likely potential to occasion unnecessary human exposure. The sites can reasonably be placed in three such groups:

Group I:

13 Niquette Drive
17 Niquette Drive
Nowell Street
Oakland Avenue
Russell Avenue

These sites are all located in populated neighborhoods; all have exposed asbestos contamination in varying degrees that is subject to dispersal in the air and migration by water runoff. In the case of the two Niquette Drive sites it can be assumed that residents work (gardening, yard maintenance such as mowing) or play (digging in soil, etc.) in areas that are contaminated; the residents themselves are therefore subject to unnecessary exposure and their activities possibly cause additional dispersal of asbestos fibers in the immediate neighborhood. The other three sites all are subject to some degree of human traffic (two have footpaths crossing some part of the site, one is entirely accessible). All five sites should be remediated so as to prevent exposure of both the sites' residents and neighboring populations.

Group II:

44 Broad Street
West Bank

These two sites represent an intermediate degree of public health hazard among the nine sites. Although the 44 Broad Street Site is not in a heavily residential area and has minimal direct human traffic across contaminated areas, the site is near the parking lot of the retail establishment at the street side of the property. Air dispersion of friable asbestos might put customers at unnecessary risk of exposure. The proximity of the bordering Nashua River, described to be down-gradient of the site (the property slopes north to south, with the river forming the southern boundary), represents an additional mode of dispersal of contamination via normal water runnoff. The West Bank Site is a more extreme case in this last respect: there is a very high potential for asbestos waste generally scattered along the steep embankment that comprises the site to be washed into the Merrimack River and to be dispersed along its banks downstream. Both these sites should also be remediated.

Group III:

Industrial Drive
Wason Road

These remaining two sites pose the least degree of public health hazard among the nine sites inasmuch as most of the asbestos waste on those sites is covered. In the case of Wason Road, even though the contaminated portion of the site comprises the side yard of a residential lot in a residential neighborhood, the asbestos is reported to be essentially all covered with natural material. Although efforts should be made to ensure that all asbestos waste is in fact covered and remains so, this site would

appear to pose little immediate hazard. If the waste material becomes exposed because the soil is disturbed for any reason, then this site would appear to be no less hazardous the the Group I sites. The Industrial Way Site is in an unpopulated non-residential area; the asbestos waste is described to be generally covered with four inches of soil and the site is being monitored by state and local agencies. If all these conditions continue, this site should not pose an immediate health hazard, althouth the potential for one remains as long as the asbestos remains on the site and is subject to being disturbed by building excavations, etc.

CONCLUSION/RECOMMENDATION

In so far as all nine sites have been documented to be contaminated with asbestos waste that could be dispersed into the air or water through natural means or by human activity, all pose some degree of elevated risk for cancer to any human populations who might become exposed to the dispersed asbestos fibers. The sites noted under Group I (13 Niquette Drive, 17 Niquette Drive, Nowell Street, Oakland Avenue, and Russell Avenue) appear to pose the greatest potential for causing excess exposure and accordingly should be remediated as feasible. The Group II sites (44 Broad Street and the West Bank of the Merrimack River) appear to pose an intermediate degree of excess human exposure and should also be remediated; if some reason it is necessary to priortize and stage remedial efforts at the nine sites, these two sites could reasonably be addressed after the Group I sites, providing some instutional control is established to limit direct public access to the sites. The remaining two sites (Industrial Way and Wason Road) do not pose an immediate public health threat but should be monitored to ensure that current conditions at the sites do not change appreciably and that soil coverage of asbestos contamination remains intact.

We hope these comments will be useful in your future work on these sites.

Jeffrey G. Lybarger

Jeffrey Lybarger, M.D.